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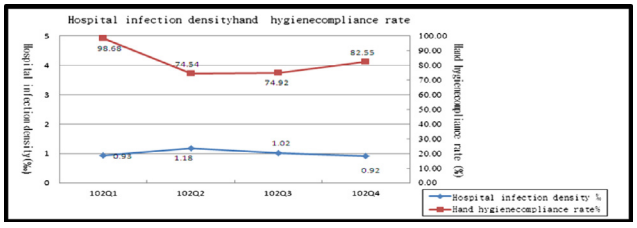
ESTABLISH INTERDISCIPLINARY TEAM OF HAND HYGIENE AUDITS HELP TO IMPROVE HAND HYGIENE

Kuang-Chi Chou, In-ling Chen . *Infection Control Committee, Chi Mei Medical Center, Taiwan*

Introduction: The real presentation of the staff hand hygiene implementation status is an important basis to help improve medical institutions, while avoiding audits "Hawthorne effect" is the key. Since 2012, the first interdisciplinary team includes the major members of all department / unit: physician, nurse, specialist assistant, Medical laboratory scientist, health examination center staff, after training as a complete unit of seed personnel, and the composition of the audit team to assist other unit audit, as to optimize workflow and enhance the implementation of hand hygiene basis.
Methods: Representatives recommended by directors of all departments. 1. Education Training (presentation and case report video), to be certified by pre-and posttest; 2. regular case studies, and continue consensus 3. Group discussion led by infection control specialist to provide immediate consultation.



Conclusion: Audit assistance through different areas of trained expertise can reduce the Hawthorne effect, help to optimize the hand hygiene timing among all workflow in all categories, can improve medical personnel willing to perform hand hygiene.

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THE INVESTIGATION AND TREATMENT OF SUSPECTED UPPER RESPIRATORY TRACT INFECTION CLUSTERING EVENTS IN PSYCHIATRIC WARDS

Hsiao-Shan Chen [a], Bo-An Su [a,b,c], Hung-Jen Tang [a,b,c], Iig-Ling Chen [a]. *[a]Infection Control Committee, Chi Mei Medical Center, Taiwan; [b]Division of Infectious Disease, Chi Mei Medical Center, Taiwan; [c]Department of Internal Medicine, Chi Mei Medical Center, Taiwan*

Purpose: Patients with acute psychiatric symptoms due to poor self-care ability and personal hygiene, they are not easy to be controlled, and leading to a rapid progression to pneumonia and group emergencies.
Methods: From May 5th to 17th in 2014, there were 17 patients and 7 medical staffs (as shown in Figure 1) having symptoms such as cough, runny nose, fever, chills and so on. Their flu tests were all negative, but one of them was diagnosed with urinary tract infection with septicemia, and four among them were diagnosed with pneumonia. These may be initially assumed as upper respiratory tract clustering events.

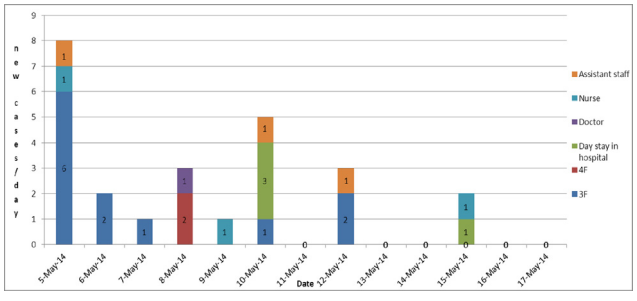

Figure 1 Daily timing increase chart.

Results: Patients in this clustering infection event were hospitalized due to chronic mental illness, therefore it was difficult to identify the bacteria from one who was newly hospitalized. The reason may suspect that staffs who had respiratory symptoms but still worked without notification and transmitted to patients.
Conclusions: Due to the property of psychiatric patients, the importance of reporting and infection control treatment was demonstrated. In order to effectively control development of the epidemic, there are some provided methods which are the centralized management of patients, increasing environmental disinfections and hand hygiene, temporarily stop receiving new patients, occupational therapy and active surveillance until the epidemic lift, etc.

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OUTBREAK OF VANCOMYCIN-RESISTANT ENTEROCOCCI IN A MEDICAL INTENSIVE CARE UNIT

Min-hui Lien [a,c], Han-yueh Kuo [a], Hui-ching Liang [a,c], Mei-laun Huang [a,c], Yu-chun Liu [a,c], Yueh-jiao Jian [a,c], Meng-lan Teng [c], Ching-kai Lin [a,b,c], Chien-hui Yang [c], Yi-chen Hsieh [c], Aristine Cheng [a]. *[a]Infection Section, National Taiwan University, Taiwan; [b]Department of Laboratory, National Taiwan University, Taiwan; [c]Department of Nursing, National Taiwan University, Taiwan*

Objective: To investigate and control an outbreak of vancomycin resistant enterococci (VRE) infection.
Design: Epidemiological investigation, including multiple point-prevalence culture surveys of patients and environment, pulsed-field gel electrophoresis (PFGE) typing of patient and environmental isolates, implementation of infection control interventions and monitoring of control measures.
Setting: Medical intensive unit(MICU) in an 800-bed regional teaching hospital in Hsinchu, Taiwan.
Results: From April 1st to April 20th there were three cases of vancomycin resistant enterococci (VRE) healthcare associated bloodstream infections (BSIs) in a medical 16-bed medical intensive care unit (MICU) which had no case documented in the entire preceding 12 months. Outbreak investigation was initiated promptly. Between 1st May 2014 to 25th July 2014, by active surveillance of hospitalized patients at point of ICU admission, during ICU stay on a weekly basis and at point of ICU discharge, we collected 231 anal swab cultures form 129 ICU patients, of which 114 (49.3%) were positive for VRE. None of the colonized patients developed infections by VRE. Of the patients who were initially not-colonized at ICU admission, 14 patients became colonized during their ICU stay. Of 69 environmental cultures, 3 samples (1.44%) were positive for VRE. The contaminated environmental sites included bed rails, surface of ventilator machine and feeding pump.
PFGE typing indicated 8 clonal types prior to intervention with one predominant clone cultured from 4 (33.3%) patients(type A pulsotype).Interestingly, one patient initially was colonized with pulsotype C, but after 8 day, he became colonized with pulsotype E from another patient who was already carrying pulsotype E at ICU admission, documenting cross-contamination prior to intervention.
The following interventions were implemented from May 1st to July 25th:

1. We educated and trained MICU healthcare and cleaning staff.
2. Field inspection were conducted by infection control nurses (ICN) and timely reminders were given.
3. We implemented a fasttrack system of notification for multidrug resistant bacteria.
4. We increased the frequency of inter-patient curtain change and always replaced after each patient was discharged from ICU at terminal cleaning.

After these interventions, we found a decrease in percentage of patients newly colonized with VRE(33.3%→5%), dispersal of the predominant VRE pulsotype A (33.3%→22.2%)with increased diversity of VRE pulostypes(13 pulsotypes), and no new acquired cases of VRE infection.
Conclusions: Prior to infection control interventions, PFGE documented cross-contamination of VRE from patient-to-patient. Environmental survey did not reveal a point source or transmission vector. Although we did not perform culture of personnel, following education and training, aggressive environmental decontamination program including replacement of inter-patient curtains, new cases of VRE infection and colonization were prevented.